

CLAIMS

1. A method for reducing a chromium-containing material, comprising a mixing step of mixing a chromium-containing material comprising chromium oxide and iron oxide and a carbonaceous reductant to provide a mixture; and a reducing step of heating and reducing the mixture with a rapid temperature rise by radiation heating in a moving hearth furnace to provide a reduced mixture.

2. The method for reducing a chromium-containing material according to Claim 1, wherein the average rate of raising the temperature of the mixture in the reducing step is 13.6°C/s or higher in the period from the initiation of the radiation heating of the mixture until the mixture reaches $1,114^{\circ}\text{C}$.

3. The method for reducing a chromium-containing material according to Claim 1 or 2, wherein the reducing step is performed at $1,250^{\circ}\text{C}$ to $1,400^{\circ}\text{C}$.

4. The method for reducing a chromium-containing material according to any one of Claims 1 to 3, further comprising a reducing and melting step of melting the reduced mixture provided in the reducing step by successive

radiation heating to provide a reduced molten material.

5. The method for reducing a chromium-containing material according to Claim 4, further comprising a solidifying step of cooling and solidifying the reduced molten material provided in the reducing and melting step in the moving hearth furnace to provide a reduced solid; and a separating step of separating the reduced solid into metal and slag.

6. The method for reducing a chromium-containing material according to Claim 4 or 5, wherein the reducing step is performed at 1,250°C to 1,400°C; and the reducing and melting step is performed at a temperature higher than that in the reducing step within the range of 1,350°C to 1,700°C.

7. The method for reducing a chromium-containing material according to any one of Claims 1 to 6, wherein a carbonaceous atmosphere-adjusting agent is charged together with the mixture onto the hearth of the moving hearth furnace in the reducing step.